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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/552,688

10/11/2005

Tatsuya Fujii

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EXAMINER

RUTKOWSKI, JEFFREY M

ART UNIT

PAPER NUMBER

2473

MAIL DATE

DELIVERY MODE

11/13/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/552,688	Applicant(s) FUJII, TATSUYA	
	Examiner JEFFREY M. RUTKOWSKI	Art Unit 2473	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 August 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) 13-29 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 October 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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DETAILED ACTION

Election/Restrictions

1. **Claims 13-29** are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected inventions, there being no allowable generic or linking claim.

Election was made **without** traverse in the reply filed on 08/24/2009.

Drawings

2. Figures 1-8 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The disclosure is objected to because of the following informalities: throughout the specification, multiple words in a single sentence are concatenated into a single word. For example, on page 17 line 13 it appears the phrase "...voltageinaccordancewithapredeterminedweightandforgenerating..." should be "voltage in accordance with a predetermined weight and for generating".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

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The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. **Claims 1-12** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification does not adequately describe how the "predetermined weight" is determined.

6. **Claims 1-12** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear what is meant by "...a predetermined weight..."

7. It is also unclear if the "digital input signals" that are converted by the sending part are the same "digital input signals" that are generated and output by the receiving part. The reason why this is unclear because the claim language suggests the receiving part is a feedback loop for the sending part.

8. It is also unclear if the converted voltages of the send signal (line 8 of claim 1) are the same or different from the converted voltages of lines 5-6.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. **Claims 1, 8 and 11** are rejected under 35 U.S.C. 103(a) as being unpatentable over the Admitted Prior Art, hereinafter referred to as the APA, in view of Yoshino (US Pat 5,499,269), hereinafter referred to as Yoshino.

12. For **claim 1**, the APA discloses *a sending part (item 122 of figure 8) for converting each width of the plurality of digital input signals into a voltage in accordance with a predetermined weight* (transmitters that use pulse width modulation are conventional; see page 7 lines 4-10. Figure 5 shows to generate a binary "1" the width of the pulse is weighted at twice the width of the pulse width needed to generate a binary "0"). The APA suggests *generating a send signal by adding voltages converted from the plurality of digital input signals, and outputting the send signal* (data signals, load signals and clock signals are multiplexed in a manner that changes the wave height of the transmitted signal waveform; see page 2 lines 17-22).

13. The APA discloses the use of *a receiving part (item 127 of figure 8) for receiving the send signal from the sending part* (figure 8 shows the receiving part receives signals from the sending part).

14. The APA does not disclose the comparison of predetermined voltages. Yoshino discloses *comparing the send signal with a plurality of predetermined voltages* (a receiver **R1** compares a

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signal that was sent out on a transmission line with two voltage threshold values; see col. 8 lines 57-67), *generating each of the digital input signals* (figure 7 shows a signal is output for each threshold), *and outputting said each of the digital input signals* (figure 7 also shows the receiver outputs the signals). It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Yoshino's architecture in the APA to provide highly-reliable reception circuitry (Yoshino, col. 3 lines 35-40).

15. For **claim 8**, the APA discloses *wherein said sending part adds the voltages being converted* (data signals, load signals and clock signals are multiplexed in a manner that changes the wave height of the transmitted signal waveform; see page 2 lines 17-22).

16. The APA does not disclose using a signal with a greatest weight as a predetermined signal level. Yoshino suggests *a digital input signal having a greatest weight in the digital input signals is a predetermined signal level* (a comparison is performed between signals that have been added and a threshold value to extract only one signal that was sent; see col. 2 lines 5-10). It would have been obvious to a person of ordinary skill in the art at the time of the invention to use a signal with a greatest weight as a predetermined signal level in the APA to distinguish one signal from another (Yoshino, col. 2 lines 5-10).

17. For **claim 11**, the APA does not disclose the circuitry that is included in the *receiving part*. Yoshino discloses *a reference voltage generating circuit for generating and outputting each of a plurality of predetermined reference voltages* (threshold voltages are input into each amplifier; see figure 7); *a voltage comparing circuit* (receivers **R11**, **R21** and **R31** of figure 7) *for comparing each of the plurality of predetermined reference voltages and a signal received from said sending part* (each receiver compares the received signal with a threshold; see col. 8

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lines 57-67), *and outputting a signal showing each comparison result* (figure 7 shows each receiver outputs a comparison result); *and a logic circuit* (XOR1 and XOR2 of figure 7) *for synthesizing each of the digital input signals from each output signal of said voltage comparing circuit in accordance with a predetermined method* (the logic circuits synthesize the receiver outputs according to an exclusive-OR method). It would have been obvious to a person of ordinary skill in the art at the time of the invention to use Yoshino's architecture in the APA to provide highly-reliable reception circuitry (Yoshino, col. 3 lines 35-40).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY M. RUTKOWSKI whose telephone number is (571)270-1215. The examiner can normally be reached on Monday - Friday 7:30-5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang Yao can be reached on (571) 272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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/Jeffrey M Rutkowski/
Examiner, Art Unit 2473

/KWANG B. YAO/
Supervisory Patent Examiner, Art Unit 2473